

A novel *Bacillus intermedius* extracellular alkaline phosphatase: Isolation, physico-chemical and catalytic characteristics

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Abstract

A new alkaline phosphatase was obtained as homogeneous preparation from culture filtrate of the spore-forming *Bacillus intermedius*. *B. intermedius* phosphatase was shown to be monomer with molecular weight of 47 kDa. The enzyme possesses phosphomonoesterase and phosphodiesterase activities and exhibits a broad specificity towards a wide variety of substrates. The purified phosphatase had an optimum temperature of 50°C, optimum pH of 9.5 and was stable until 60°C at pH 8-10. The effect of divalent metal ions and thiol reagents on catalytic activity of the enzyme was studied.

Keywords

Alkaline phosphatase, Inhibition, Purification, Substrate specificity